3. The biometrics system of claim 2 further comprising:

a third series of triangle waveforms at a third frequency each in a third color, wherein each of the triangle waveforms in the third series has a different phase and wherein the third frequency is between the base frequency and high frequency.

4. The biometrics system of claim 3, wherein the first series of triangle waveforms at the base frequency are linear ramps with a positive slope in a first pattern in the series and a linear ramp with a negative slope in a second pattern in the series.

5. The biometrics system of claim 4, wherein each of the three series of triangle waveforms has N patterns corresponding to N phase shifts.

6. The biometrics system of claim 5, wherein N equals three.

7. The biometrics system of claim 1, further including a third series of simple patterns in a blue color.

8. The biometrics system of claim 7, wherein the simple waveforms are binary patterns in the blue color.

9. The biometrics system of claim 8, wherein the binary patterns in the blue color are due to increased attenuation of color blue by skin.

10. The biometrics system of claim 1, wherein the first color and second color are red and blue.

11. The biometrics system of claim 1, wherein the projection unit further projects an albedo pattern onto the 3D object and wherein the processing unit processes an image of the 3D object with the projected albedo pattern to determine albedo values of the 3D object.

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